

Remarks

Claims 1-23 are pending in the present application. Claims 1-19 are rejected and claims 20-23 are withdrawn.

Formal Objections

In the Office Action, the Examiner noted that the Abstract is not directed to the presently claimed invention. Applicants have hereby amended the Abstract in accordance with the statute and respectfully request that the objection be withdrawn.

Also in the Office Action, the Examiner noted this it is unclear if the copy of the foreign search report in the file is for the present application. The present application claims priority to German Application No. 103 03 265.7, filed 28 January 2003. The foreign search report is for European Patent Application No. 04001727.9 that also claims priority to German Application No. 103 03 265.7 and, therefore, is the foreign equivalent of the present U.S. application. The Examiner is encouraged to contact the undersigned attorney should he have further questions regarding applicants' submission of the foreign search report.

Also in the Office Action, the Examiner noted that in all occurrences in the claims, "selected from" is queried as it is not standard Markush terminology. In response, claims 4, 6 and 8 are amended herein and now recite "selected from the group consisting of" in accordance with MPEP 2173.05(h). Claim 7 is also amended herein for clarity -- addition of "a" before --group--. No new matter has been added.

Rejections Pursuant to 35 U.S.C. §103(a)

Claims 1-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over each of Song and Zhang. As stated in the Office Action, the claims differ from Song and Zhang in that they are directed to a method of detecting employing a reagent/indicator, where each of the above references teach the same reagent/indicator. In support of the rejection, the Examiner asserted it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the reagent/indicator of each of the above references for the presently claimed method because using a known reagent/indicator for its known function with the expected result would have been obvious. Although the references do not specifically state the disclosed compounds are used in detecting an analyte, one of ordinary skill would expect the function of the compounds is to detect changes in redox status.

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. For the following reasons, applicants submit that the Examiner has not met this burden and respectfully request that the rejection be withdrawn.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in

the prior art, not in applicant's disclosure. MPEP 2143 (*citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

All Claim Limitations Must be Taught or Suggested

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP 2143.03 (*citing In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). "All words in a claim must be considered in judging the patentability of that claim against the prior art." MPEP 2143.03 (*citing In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Neither Song nor Zhang teach or suggest the claimed method for detecting an analyte by a redox reaction and a fluorimetric determination. More specifically, neither reference, alone nor in combination, disclose contacting a sample containing the analyte with a detection reagent which contains a compound of the general formula Q – F as a fluorimetric redox indicator, wherein Q is a quencher group and F is a fluorophore group. Consequently, neither Song nor Zhang can be relied upon in support of the instant rejection. Applicants respectfully request that the rejection be withdrawn.

Suggestion or Motivation to Modify the References

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion or motivation to do so. MPEP 2143.01(I) (*citing In re Kahn*, 441 F.3d 977, 986, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006)). Also, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP 2143.01(III) (*citing In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)). In contrast to the present application which teaches and claims a method for detecting an analyte by a redox reaction and a fluorimetric determination comprising contacting a sample containing the

analyte with a detection reagent which contains a compound of the general formula Q – F as a fluorimetric redox indicator, Song et al. and Zhang et al. describe a photophysical analysis of intramolecular quencher – fluorophore conjugates. The cited references do not teach or suggest the applicability of such conjugates as fluorimetric redox indicators or generally for the determination of analytes. In contrast, both Song et al. and Zhang et al. note that significant emphasis has been placed on the development of an understanding of photoinduced charge separation reactions as a means of capturing and storing solar energy. No further application for the quencher-fluorophore conjugates of Song and Zhang are mentioned, in particular a method for detecting an analyte by a redox reaction and a fluorimetric determination as presently claimed.

Moreover, although it's acknowledged in the Office Action that Song and Zhang do not teach or suggest the disclosed compounds are used in detecting an analyte, it is further asserted in support of the present rejection that one of ordinary skill in the art would expect the function of the compounds is to detect changes in redox status. However, the fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness. An objective reason to combine or modify the teachings of the references must be provided. MPEP 2143.01(IV). The disclosures of Song et al. and/or Zhang et al. do not fulfill the required establishment of a *prima facie* case of obviousness.

For all of the reasons set out above, neither Song nor Zhang can be relied upon in support of the instant rejection. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. MPEP 2143.03 (*citing In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Accordingly, applicants respectfully request that the rejection be withdrawn.

Conclusion

Applicants have filed a complete response to the outstanding Office Action and respectfully submit that, in view of the above amendments and remarks, the application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
ROCHE DIAGNOSTICS OPERATIONS, INC.

By 
Brian L. Smiler
Registration No. 46,458

9115 Hague Rd.
Indianapolis, IN 46250-0416
Telephone: (317) 521-3295
Facsimile: (317) 521-2883
E-mail: brian.smiler@roche.com

BLS/